



**CITY OF DULUTH**  
**REQUEST FOR PROPOSALS FOR**

**Development and Implementation of an Energy Service Micro-Grid System**

**RFP NUMBER 19-05AA**

**ISSUED February 14, 2019**

**PROPOSALS DUE Thursday, March 14, 2019**

**SUBMIT TO**

**CITY OF DULUTH  
ATTN: PURCHASING DIVISION  
CITY HALL, ROOM 120  
411 WEST 1ST STREET  
DULUTH, MN 55802**

## PART I - GENERAL INFORMATION

**I-1. Project Overview.** The City of Duluth is soliciting proposals for the development and implementation of a privately owned and operated micro-grid to be located and operated in conjunction with the operations of the City of Duluth Lakewood Water Treatment Plant. Additional detail provided in **Part IV** of this RFP.

**I-2. Calendar of Events.** The City will make every effort to adhere to the following schedule:

Activity	Time	Date
Deadline to submit Questions via email to <a href="mailto:purchasing@duluthmn.gov">purchasing@duluthmn.gov</a>	2:00 PM	March 5, 2019
Answers to questions will be posted to the City website no later than:	4:30 PM	March 7, 2019
Proposals must be received in the Purchasing Office by:	4:30 PM	March 14, 2019

**I-3. Rejection of Proposals.** The City reserves the right, in its sole and complete discretion, to reject any and all proposals or cancel the request for proposals, at any time prior to the time a contract is fully executed, when it is in its best interest. The City is not liable for any costs the Bidder incurs in preparation and submission of its proposal, in participating in the RFP process or in anticipation of award of the contract.

**I-4. Pre-proposal Conference.** A pre-proposal conference is not planned for this project.

**I-5. Questions & Answers.** Any questions regarding this RFP must be submitted by e-mail to the Purchasing Office at [purchasing@duluthmn.gov](mailto:purchasing@duluthmn.gov) **no later than** the date indicated on the Calendar of Events. Answers to the questions will be posted as an Addendum to the RFP.

**I-6. Addenda to the RFP.** If the City deems it necessary to revise any part of this RFP before the proposal response date, the City will post an addendum to its website <http://www.duluthmn.gov/purchasing/bids-request-for-proposals/> . Although an e-mail notification will be sent, it is the Bidder's responsibility to periodically check the website for any new information

**I-7. Proposals.** To be considered, hard copies of proposals must arrive at the City on or before the time and date specified in the RFP Calendar of Events. The City will not accept proposals via email or facsimile transmission. The City reserves the right to reject or to deduct evaluation points for late proposals.

Proposals must be signed by an authorized official. If the official signs the Proposal Cover Sheet attached as Appendix B, this requirement will be met. Proposals must remain valid for 60 days or until a contract is fully executed, whichever is later.

**Please submit one (1) paper copy of the Technical Submittal and one (1) paper copy of the Cost Submittal. The Cost Submittal should be in a separate sealed envelope. In addition, bidders shall submit one copy of the entire proposal (Technical and Cost submittals, along with all requested documents) on flash drive in Microsoft Office-compatible or pdf format.**

All materials submitted in response to this RFP will become property of the City and will become public record after the evaluation process is completed and an award decision made.

**I-8.Small Diverse Business Information.** The City encourages participation by minority, women, and veteran-owned businesses as prime contractors, and encourages all prime contractors to make a significant commitment to use minority, women, veteran-owned and other disadvantaged business entities as subcontractors and suppliers. A list of certified Disadvantaged Business Enterprises is maintained by the Minnesota Unified Certification Program at <http://mnucp.metc.state.mn.us/> .

**I-9. Term of Contract.** The term of the contract will begin once the contract is fully executed. The selected Bidder shall not start the performance of any work nor shall the City be liable to pay the selected Bidder for any service or work performed or expenses incurred before the contract is executed.

**I-10. Mandatory Disclosures.** By submitting a proposal, each Bidder understands, represents, and acknowledges that:

- A. Their proposal has been developed by the Bidder independently and has been submitted without collusion with and without agreement, understanding, or planned common course of action with any other vendor or suppliers of materials, supplies, equipment, or services described in the Request for Proposals, designed to limit independent bidding or competition, and that the contents of the proposal have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder.
- B. There is no conflict of interest. A conflict of interest exists if a Bidder has any interest that would actually conflict, or has the appearance of conflicting, in any manner or degree with the performance of work on the project. If there are potential conflicts, identify the municipalities, developers, and other public or private entities with whom your company is currently, or have been, employed and which may be affected.

- C. It is not currently under suspension or debarment by the State of Minnesota, any other state or the federal government.
- D. The company is either organized under Minnesota law or has a Certificate of Authority from the Minnesota Secretary of State to do business in Minnesota, in accordance with the requirements in M.S. 303.03.

**I-11. Notification of Selection.** Bidders whose proposals are not selected will be notified in writing.

## **PART II - PROPOSAL REQUIREMENTS**

- 1) Cover letter
- 2) Background and experience of the Company in this application
  - a) Highlight five similar projects
  - b) Provide five references
- 3) Identify project lead; provide resume for lead and all key project staff
  - a) Identify names of potential subcontractors or consultants
- 4) Provide detailed strategy for determining project economics
  - a) Provide examples of how energy services may be purchased by the City of Duluth. This should include, but not be limited to:
    - i) Design, Build, Own, Operate and Maintain
    - ii) Design, Build, Sell to City of Duluth after tax benefits and depreciation
    - iii) Design, Build and Sell to a mutually agreed upon third party
  - b) One of the key goals for this project is to be cost neutral, or as close as possible, for the City of Duluth water department. Detail how this will be determined.
- 5) Provide a detailed project timeline that identifies key project milestones.

## **PART III - CRITERIA FOR SELECTION**

The proposals will be reviewed by City Staff. The intent of the selection process is to review proposals and make an award based upon qualifications as described therein. The City reserves the right to schedule interviews after initial review of proposals. A 100-point scale will be used to create the final evaluation recommendations. The factors and weighting on which proposals will be judged are:

Qualifications of the Bidder and Personnel	10%
Prior experience with similar work/outcomes	30%
Technical Approach/Work Plan	40%
Cost to City	20%

## **PART IV – PROJECT DETAIL**

The City of Duluth's position is that it is indisputable that our climate is changing, and with these changes comes challenges that are greater than have been common in the

past. The increased intensity and frequency of storm activity in and around the City since 2012, has required the organization to rebuild millions of dollars of critical City infrastructure. During the summer of 2016, a windstorm knocked out power to over a quarter of Duluth's residents for more than 4 days, and both power supplies to the Lakewood Water Treatment Facility failed. This facility pumps all of the fresh water supply for over 120,000 customers across the City and region. Fortunately, the local utility and City Public Works were able to re-establish the power supply to the facility before the entire Duluth water system ran dry. This incident led the City to begin exploring climate-resilient strategies that would ensure that critical infrastructure remains viable.

To that end, the City of Duluth is requesting proposals for the design and implementation of a micro-grid at its Lakewood Water Treatment Plant, located at 8130 Congdon Park Blvd., Duluth, MN 55804. The micro-grid should include the following elements: renewable energy, energy storage, and a mechanical energy and control platform that will not only monitor and operate the micro-grid, but will also monitor and react to changes in the City's water purifying and distribution systems. The system should also provide for the direct reduction of greenhouse gas emissions from the plant, while at the same time ensuring that water delivery remains viable for City of Duluth customers. Further, the City desires to provide demand response ability to our local electric utility during times of high electrical demand.

Additional information about the site, electrical data, and pumping data is available in Appendix B (attached) and Appendix C (separate Excel document).

**IV-1.** The key elements of this system should include the following:

- i. Reduce purchased energy by using renewables to offset the number of kilowatt-hours purchased from the local utility;
- ii. Provide demand response services to reduce related charges incurred from our local utility;
- iii. Remediate motor power factor issues, which currently incur financial penalties on the monthly bill;
- iv. Reduce Greenhouse Gas emissions from the production and distribution of potable water to City water customers;
- v. Under necessary or favorable circumstances, the micro-grid shall be able to operate the plant and distribute water without energy from the local electrical utility grid indefinitely and in a timely manner;
- vi. There should be no initial out of pocket capital expenses incurred by the City of Duluth;
- vii. The selected company shall make appropriate purchases to capture federal tax incentives prior to anticipated changes as of December 31, 2019; and
- viii. The selected company shall provide these services at an agreed upon cost for a term between 15 and 25 years.

**IV-2** The proposal should detail how to meet the following goals:

- i. The cost of these energy services will not significantly increase the operating costs associated with the production and distribution of potable water;
- ii. Because of this project, the current transformer at the Lakewood Plant will no longer be the weakest link in that system.
- iii. The current overhead power lines that are owned by our public utility will be buried; and
- iv. The micro-grid will be able to provide demand response services to the local electrical utility at times of high demand.

**IV-3.** Anticipated timeline for the RFP process:

- i. RFP closes -- March 14, 2019
- ii. Interviews, if required, may be scheduled within approximately 30 days after RFP close
- iii. Contracting completed by mid-May 2019
- iv. Engineering design, proof cost and long term service contracting
- v. City Council approval August 21, 2019
- vi. Substantial investment by end of 2019 to capture federal tax credit

**APPENDIX A - PROPOSAL COVER SHEET  
CITY OF DULUTH  
RFP# 19-05AA**

<b>Bidder Information:</b>	
Bidder Name	
Mailing Address	
Contact Person	
Contact Person's Phone Number	
Contact Person's E-Mail Address	
Federal ID Number	
Authorized Signature	
Title	



Name: City Of Duluth  
Account: 9651300000

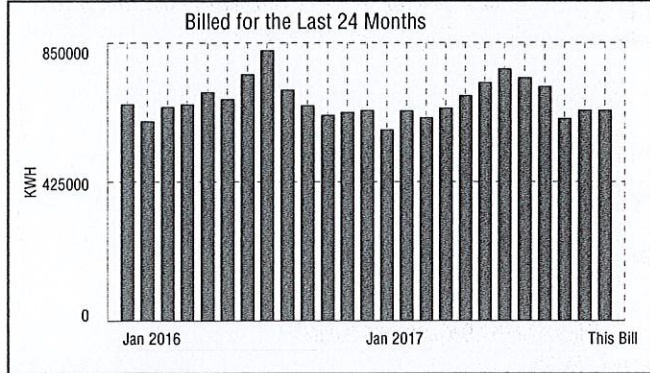
Bill Number: 965604586486  
Bill Date: February 02, 2018

**LAKEWOOD PUMP  
DULUTH MN**

Large Light & Power: 75  
31 Days

Next Scheduled Meter Read: 02/28/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Measured	Reg Const	Usage	Total Usage
EMP335391	12/31/2017	65203	Regular	01/31/2018	65816	Regular	613	1050	643650	643,650 Kilowatt Hours (kWh) used
EMP335391	12/31/2017	44318	Regular	01/31/2018	44850	Regular	532	1050	558600	558,600 Kilowatt Hours (KWH) used



Measured Demand 924  
Billed Demand 1,326  
Power Factor 75.5242

Adjusted Demand 1,039

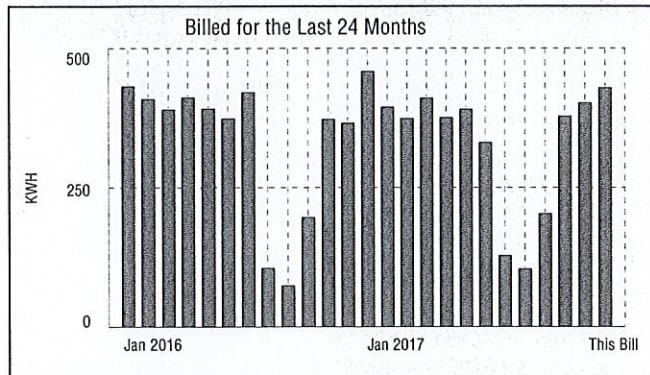
100 kW or Less (Monthly Minimum)	1,100.00
1,226 kW @ \$9.30	11,401.80
Primary Voltage Discount 1,326 kW @ \$-1.75	-2,320.50
Energy Charge 643,650 kWh @ \$0.03722	23,956.65
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	6,861.31
Fuel/Purchased Energy 643,650 kWh @ \$0.01108	7,131.64
Interim Rate Adjustment 5.07%	2,440.24
Affordability Surcharge	10.81
Renewable Adjustment 643,650 kWh @ \$-0.0009	-579.29
Transmission Adjustment 643,650 kWh @ \$0.00193	1,242.24
Boswell 4 Plan Adjustment 643,650 kWh @ \$0.00035	225.28
Solar Energy Adjustment 643,650 kWh @ \$-0.00006	-38.62
Resource Adjustment	3,374.01
<b>Total charge this period</b>	<b>54,805.57</b>

**SKYLINE PKWY & 49TH AVE E  
DULUTH MN**

General Service: 25  
31 Days

Next Scheduled Meter Read: 02/10/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Total Usage
EMP136037	12/11/2017	34336	Regular	01/11/2018	34765	Regular	429 Kilowatt Hours (kWh) used



The average KWH per day for this service is 14  
For the same period last year, it was 14  
The average daily cost for this service is \$1.93

Service Charge	10.50
Energy Charge 429 kWh @ \$0.07836	33.62
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	4.57
Fuel/Purchased Energy 429 kWh @ \$0.01181	5.07
Interim Rate Adjustment 5.07%	2.73
Affordability Surcharge	0.67
Renewable Adjustment 429 kWh @ \$-0.0009	-0.39
Transmission Adjustment 429 kWh @ \$0.00193	0.83
Boswell 4 Plan Adjustment 429 kWh @ \$0.00035	0.15
Solar Energy Adjustment 429 kWh @ \$-0.00006	-0.03
Resource Adjustment	2.26
<b>Total charge this period</b>	<b>59.98</b>



Name: City Of Duluth  
Account: 9651300000

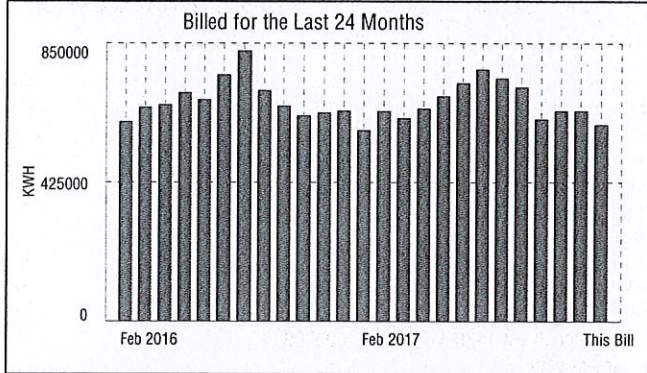
Bill Number: 965031561723  
Bill Date: March 05, 2018

**LAKEWOOD PUMP  
DULUTH MN**

Large Light & Power: 75  
28 Days

Next Scheduled Meter Read: 03/31/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Measured	Reg Const	Usage	Total Usage
EMP335391	01/31/2018	65816	Regular	02/28/2018	66389	Regular	573	1050	601650	601,650 Kilowatt Hours (kWh) used
EMP335391	01/31/2018	44850	Regular	02/28/2018	45335	Regular	485	1050	509250	509,250 Kilowatt Hours (KRH) used



Measured Demand 1,584

Adjusted Demand 1,764

Billed Demand 1,764

Power Factor 76.3285

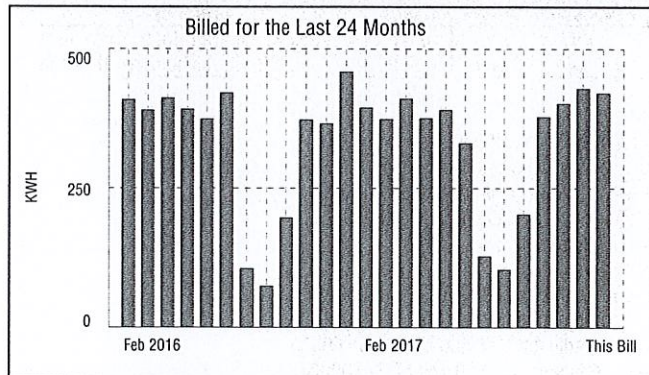
100 kW or Less (Monthly Minimum)	1,100.00
1,664 kW @ \$9.30	15,475.20
Primary Voltage Discount 1,764 kW @ \$-1.75	-3,087.00
Energy Charge 601,650 kWh @ \$0.03722	22,393.41
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	6,413.59
Fuel/Purchased Energy 601,650 kWh @ \$0.01108	6,666.28
Interim Rate Adjustment 5.07%	2,482.35
Affordability Surcharge	10.81
Renewable Adjustment 601,650 kWh @ \$-0.0009	-541.49
Transmission Adjustment 601,650 kWh @ \$0.00193	1,161.18
Boswell 4 Plan Adjustment 601,650 kWh @ \$0.00035	210.58
Solar Energy Adjustment 601,650 kWh @ \$-0.00006	-36.10
Resource Adjustment	3,171.90
<b>Total charge this period</b>	<b>55,420.71</b>

**SKYLINE PKWY & 49TH AVE E  
DULUTH MN**

General Service: 25  
31 Days

Next Scheduled Meter Read: 03/10/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Total Usage
EMP136037	01/11/2018	34765	Regular	02/11/2018	35186	Regular	421 Kilowatt Hours (kWh) used



Service Charge	10.50
Energy Charge 421 kWh @ \$0.07836	32.99
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	4.49
Fuel/Purchased Energy 421 kWh @ \$0.01181	4.97
Interim Rate Adjustment 5.07%	2.68
Affordability Surcharge	0.67
Renewable Adjustment 421 kWh @ \$-0.0009	-0.38
Transmission Adjustment 421 kWh @ \$0.00193	0.81
Boswell 4 Plan Adjustment 421 kWh @ \$0.00035	0.15
Solar Energy Adjustment 421 kWh @ \$-0.00006	-0.03
Resource Adjustment	2.23
<b>Total charge this period</b>	<b>59.08</b>

The average KWH per day for this service is 14

For the same period last year, it was 14

The average daily cost for this service is \$1.91



Name: City Of Duluth  
Account: 9651300000

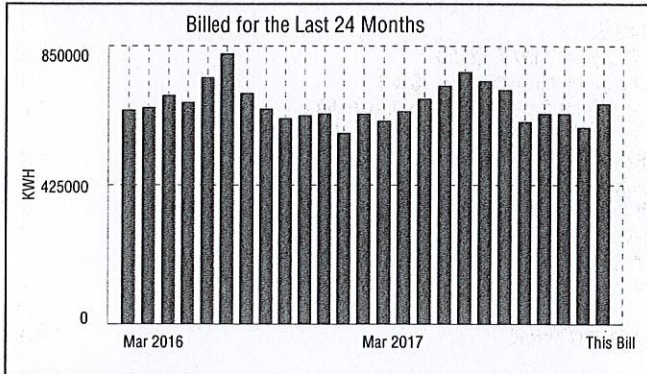
Bill Number: 965796645034  
Bill Date: April 04, 2018

**LAKEWOOD PUMP  
DULUTH MN**

Large Light & Power: 75  
31 Days

Next Scheduled Meter Read: 04/30/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Measured	Reg Const	Usage	Total Usage
EMP335391	02/28/2018	66389	Regular	03/31/2018	67031	Regular	642	1050	674100	674,100 Kilowatt Hours (kWh) used
EMP335391	02/28/2018	45335	Regular	03/31/2018	45887	Regular	552	1050	579600	579,600 Kilovar Hours (KRH) used



Measured Demand 1,575  
Billed Demand 1,766  
Power Factor 75.8255

Adjusted Demand 1,766

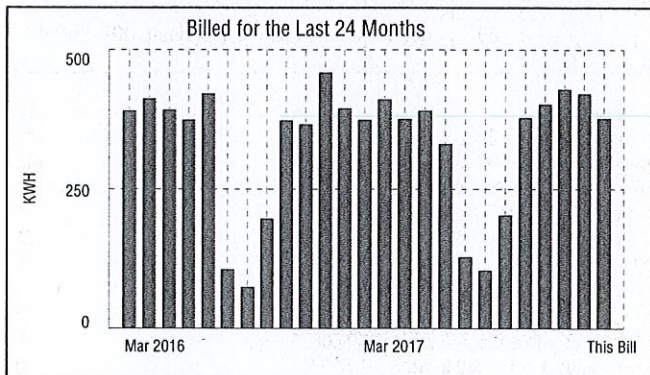
100 kW or Less (Monthly Minimum)	1,100.00
1,666 kW @ \$9.30	15,493.80
Primary Voltage Discount 1,766 kW @ \$-1.75	-3,090.50
Energy Charge 674,100 kWh @ \$0.03722	25,090.00
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	7,185.91
Fuel/Purchased Energy 674,100 kWh @ \$0.01108	7,469.03
Interim Rate Adjustment 5.07%	2,699.69
Affordability Surcharge	10.81
Renewable Adjustment 674,100 kWh @ \$-0.0009	-606.69
Transmission Adjustment 674,100 kWh @ \$0.00193	1,301.01
Boswell 4 Plan Adjustment 674,100 kWh @ \$0.00035	235.94
Solar Energy Adjustment 674,100 kWh @ \$-0.0001	-67.41
Resource Adjustment	3,405.55
<b>Total charge this period</b>	<b>60,227.14</b>

**SKYLINE PKWY & 49TH AVE E  
DULUTH MN**

General Service: 25  
28 Days

Next Scheduled Meter Read: 04/10/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Total Usage
EMP136037	02/11/2018	35186	Regular	03/11/2018	35563	Regular	377 Kilowatt Hours (kWh) used



The average KWH per day for this service is 13  
For the same period last year, it was 13  
The average daily cost for this service is \$1.93

Service Charge	10.50
Energy Charge 377 kWh @ \$0.07836	29.54
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	4.02
Fuel/Purchased Energy 377 kWh @ \$0.01181	4.45
Interim Rate Adjustment 5.07%	2.46
Affordability Surcharge	0.67
Renewable Adjustment 377 kWh @ \$-0.0009	-0.34
Transmission Adjustment 377 kWh @ \$0.00193	0.73
Boswell 4 Plan Adjustment 377 kWh @ \$0.00035	0.13
Solar Energy Adjustment 377 kWh @ \$-0.0001	-0.04
Resource Adjustment	1.90
<b>Total charge this period</b>	<b>54.02</b>



Name: City Of Duluth  
Account: 9651300000

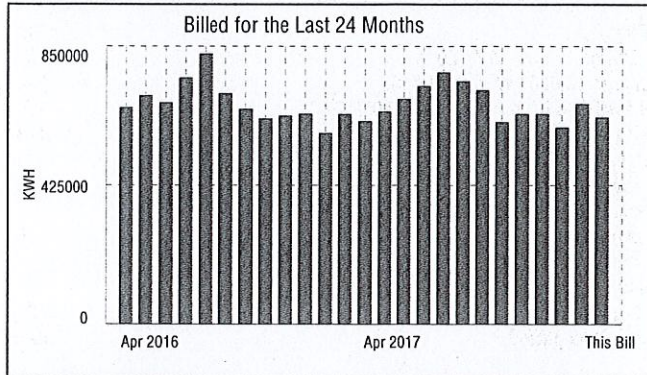
Bill Number: 965959980275  
Bill Date: May 03, 2018

**LAKEWOOD PUMP  
DULUTH MN**

Large Light & Power: 75  
30 Days

Next Scheduled Meter Read: 05/31/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Measured	Reg Const	Usage	Total Usage
EMP335391	03/31/2018	67031	Regular	04/30/2018	67634	Regular	603	1050	633150	633,150 Kilowatt Hours (kWh) used
EMP335391	03/31/2018	45887	Regular	04/30/2018	46406	Regular	519	1050	544950	544,950 Kilowatt Hours (kWh) used



Measured Demand 1,579

Adjusted Demand 1,771

Billed Demand 1,771

Power Factor 75.7924

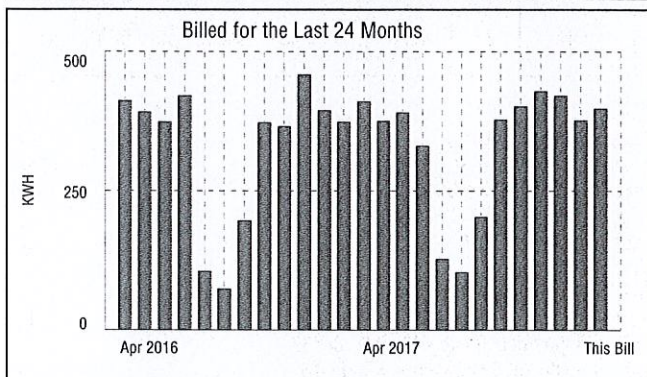
100 kW or Less (Monthly Minimum)	1,100.00
1,671 kW @ \$9.30	15,540.30
Primary Voltage Discount 1,771 kW @ \$-1.75	-3,099.25
Energy Charge 633,150 kWh @ \$0.03722	23,565.84
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	6,749.38
Fuel/Purchased Energy 633,150 kWh @ \$0.01108	7,015.30
Interim Rate Adjustment 5.07%	2,579.19
Affordability Surcharge	10.81
Renewable Adjustment 633,150 kWh @ \$-0.0009	-569.84
Transmission Adjustment 633,150 kWh @ \$0.00193	1,221.98
Boswell 4 Plan Adjustment 633,150 kWh @ \$0.00035	221.60
Solar Energy Adjustment 633,150 kWh @ \$-0.00013	-82.31
Resource Adjustment	3,521.58
<b>Total charge this period</b>	<b>57,774.58</b>

**SKYLINE PKWY & 49TH AVE E  
DULUTH MN**

General Service: 25  
31 Days

Next Scheduled Meter Read: 05/10/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Total Usage
EMP136037	03/11/2018	35563	Regular	04/11/2018	35961	Regular	398 Kilowatt Hours (kWh) used



Service Charge	10.50
Energy Charge 398 kWh @ \$0.07836	31.19
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	4.25
Fuel/Purchased Energy 398 kWh @ \$0.01181	4.70
Interim Rate Adjustment 5.07%	2.57
Affordability Surcharge	0.67
Renewable Adjustment 398 kWh @ \$-0.0009	-0.36
Transmission Adjustment 398 kWh @ \$0.00193	0.77
Boswell 4 Plan Adjustment 398 kWh @ \$0.00035	0.14
Solar Energy Adjustment 398 kWh @ \$-0.00013	-0.05
Resource Adjustment	2.23
<b>Total charge this period</b>	<b>56.61</b>

The average KWH per day for this service is 13

For the same period last year, it was 13

The average daily cost for this service is \$1.83



Name: City Of Duluth  
Account: 9651300000

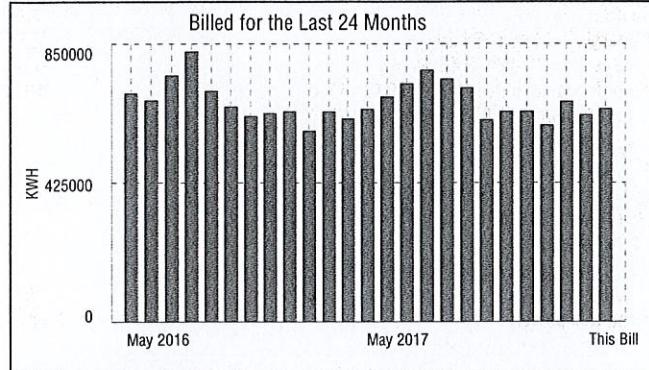
Bill Number: 965383958685  
Bill Date: June 05, 2018

**LAKEWOOD PUMP  
DULUTH MN**

Large Light & Power: 75  
31 Days

Next Scheduled Meter Read: 06/30/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Measured	Reg Const	Usage	Total Usage
EMP335391	04/30/2018	67634	Regular	05/31/2018	68255	Regular	621	1050	652050	652,050 Kilowatt Hours (kWh) used
EMP335391	04/30/2018	46406	Regular	05/31/2018	46941	Regular	535	1050	561750	561,750 Kilovar Hours (KRH) used



Measured Demand 1,865

Adjusted Demand 2,092

Billed Demand 2,092

Power Factor 75.7618

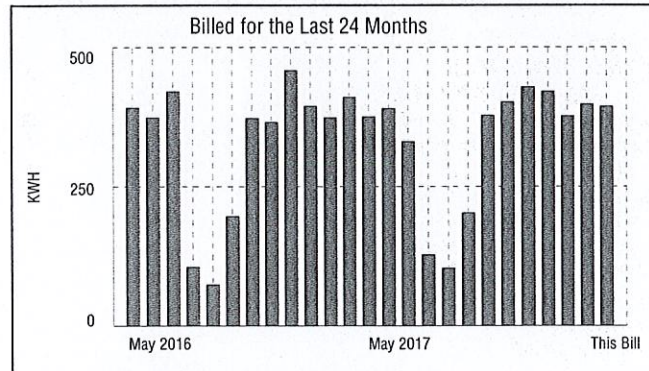
100 kW or Less (Monthly Minimum)	1,100.00
1,992 kW @ \$9.30	18,525.60
Primary Voltage Discount 2,092 kW @ \$-1.75	-3,661.00
Energy Charge 652,050 kWh @ \$0.03722	24,269.30
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	6,950.85
Fuel/Purchased Energy 652,050 kWh @ \$0.01108	7,224.71
Interim Rate Adjustment 5.07%	2,758.56
Affordability Surcharge	10.81
Renewable Adjustment 652,050 kWh @ \$-0.0009	-586.85
Transmission Adjustment 652,050 kWh @ \$0.00193	1,258.46
Boswell 4 Plan Adjustment 652,050 kWh @ \$0.00035	228.22
Solar Energy Adjustment 652,050 kWh @ \$-0.00015	-97.81
Resource Adjustment	3,926.65
<b>Total charge this period</b>	<b>61,907.50</b>

**SKYLINE PKWY & 49TH AVE E  
DULUTH MN**

General Service: 25  
30 Days

Next Scheduled Meter Read: 06/10/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Total Usage
EMP136037	04/11/2018	35961	Regular	05/11/2018	36355	Regular	394 Kilowatt Hours (kWh) used



The average KWH per day for this service is 13

For the same period last year, it was 13

The average daily cost for this service is \$1.88

Service Charge	10.50
Energy Charge 394 kWh @ \$0.07836	30.87
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	4.20
Fuel/Purchased Energy 394 kWh @ \$0.01181	4.65
Interim Rate Adjustment 5.07%	2.55
Affordability Surcharge	0.67
Renewable Adjustment 394 kWh @ \$-0.0009	-0.35
Transmission Adjustment 394 kWh @ \$0.00193	0.76
Boswell 4 Plan Adjustment 394 kWh @ \$0.00035	0.14
Solar Energy Adjustment 394 kWh @ \$-0.00015	-0.06
Resource Adjustment	2.40
<b>Total charge this period</b>	<b>56.33</b>



Name: City Of Duluth  
Account: 9651300000

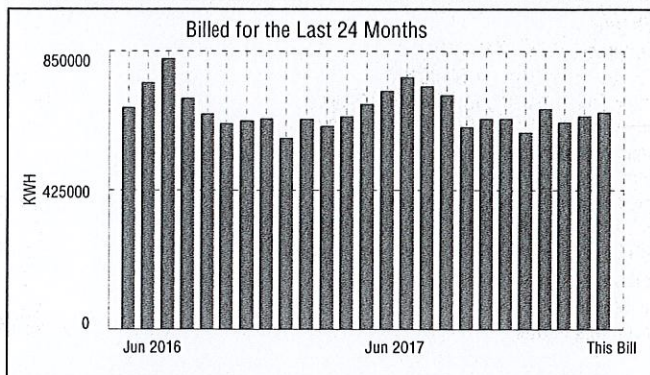
Bill Number: 965418426729  
Bill Date: July 05, 2018

**LAKEWOOD PUMP  
DULUTH MN**

Large Light & Power: 75  
30 Days

Next Scheduled Meter Read: 07/31/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Measured	Reg Const	Usage	Total Usage
EMP335391	05/31/2018	68255	Regular	06/30/2018	68887	Regular	632	1050	663600	663,600 Kilowatt Hours (kWh) used
EMP335391	05/31/2018	46941	Regular	06/30/2018	47473	Regular	532	1050	558600	558,600 Kilovar Hours (KRH) used



100 kW or Less (Monthly Minimum)	1,100.00
1,643 kW @ \$9.30	15,279.90
Primary Voltage Discount 1,743 kW @ \$-1.75	-3,050.25
Energy Charge 663,600 kWh @ \$0.03722	24,699.19
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	7,073.98
Fuel/Purchased Energy 663,600 kWh @ \$0.01108	7,352.69
Interim Rate Adjustment 5.07%	2,659.49
Affordability Surcharge	10.81
Renewable Adjustment 663,600 kWh @ \$-0.0009	-597.24
Transmission Adjustment 663,600 kWh @ \$0.00193	1,280.75
Boswell 4 Plan Adjustment 663,600 kWh @ \$0.00035	232.26
Solar Energy Adjustment 663,600 kWh @ \$-0.00017	-112.81
Resource Adjustment	3,916.57
<b>Total charge this period</b>	<b>59,845.34</b>

Measured Demand 1,569  
Billed Demand 1,743  
Power Factor 76.5037

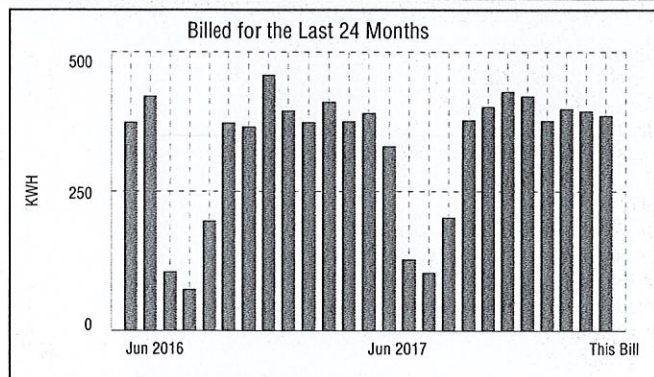
Adjusted Demand 1,743

**SKYLINE PKWY & 49TH AVE E  
DULUTH MN**

General Service: 25  
31 Days

Next Scheduled Meter Read: 07/10/2018

Meter #	Start Date	Start Read	Read Code	End Date	End Read	Read Code	Total Usage
EMP136037	05/11/2018	36355	Regular	06/11/2018	36741	Regular	386 Kilowatt Hours (kWh) used



Service Charge	10.50
Energy Charge 386 kWh @ \$0.07836	30.25
Bos4/Renew/Trans Base Per kWh @ \$0.0106600	4.12
Fuel/Purchased Energy 386 kWh @ \$0.01181	4.56
Interim Rate Adjustment 5.07%	2.51
Affordability Surcharge	0.67
Renewable Adjustment 386 kWh @ \$-0.0009	-0.35
Transmission Adjustment 386 kWh @ \$0.00193	0.74
Boswell 4 Plan Adjustment 386 kWh @ \$0.00035	0.14
Solar Energy Adjustment 386 kWh @ \$-0.00017	-0.07
Resource Adjustment	2.30
<b>Total charge this period</b>	<b>55.37</b>


The average KWH per day for this service is 12  
For the same period last year, it was 13  
The average daily cost for this service is \$1.79



# Lake Wood WTP

Approximate boundries for Lakewood plant.

Legend

 Lakewood approx. Property





# Lakewood WTP

Site with buildings and reservior.

Legend

F

 Electrical Meter

⚡

 Electrical Utilites feed

⚡

 feed

🟡

 Lakewood approx. Property

E

 Pump House

A

 Reservior

D

 Surge Building

C

 Washwater Building

B

 Water Treatment Plant/Filter Building

